QUANTA

MAGAZINE

1984 TO 2010

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Information on the Association

Membership of QUANTA, the independent QL user group, is by annual subscription. The Membership Secretary can supply full details. Copies of the association's constitution & annual accounts are available from the Secretary. There is an extensive software library. There are active national subgroups. Details are given in the Member's Guide and in this magazine.

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EDITORIAL — John Gilpin

Welcome to another Bumper Issue of QUANTA Magazine. Since our appeal for more content went out during the Summer months, I am pleased to say that we have been sent quite a bundle of contributions which we hope will be of interest to you all. In fact, we have received so much material that we have had to hold some over to our next issue. Thanks to all concerned.

We have started a new, multi-part article on Zip and Unzip following a request from a QLer who (like me) admits to being less than familiar with this topic. Jochen Merz (of QL Today) has given his kind permission for us to re-publish an article on this topic which appeared in QL Today some years ago. The content has been revised to bring it up to date (thanks Dilwyn) and will be a regular feature during the next few issues.

Peter Scott tells us about his QL Makeover while Dilwyn shows us how to cram over 20 windows, all running different applications, on to his 1920 X 1080 pixel Monster Monitor. Also a returning QLer tells us how he finds the QL scene after a number of years using other platforms. And of course we will have the usual Christmas contribution from Steve Poole to get all you Qlers out there to spend some time while the Xmas Pud settles thinking about Viruses, Rabbits and Foxes.

All these items are to come in the NEXT Issue together with the next instalment of Zip and UnZip and, of course, anything else that comes in in the meantime. Should be another Bumper Issue and I am determined to get it out to you in time for Christmas!!

The next issue will be the last one in the current Volume and if you want something different in the next Volume, NOW is the time to be writing to us with your thoughts and requests.

As we all get a little older we begin to forget a number of the BASIC things that were so simple a few years ago. In order to refresh all our memories, we thought that we would consider writing an Idiot's Guide to Basic QLing so that new QLers and those returning after a break could polish up their skills or simply get the good old QL working again as it should. What is a Boot Program? Etc - We hope that all will be revealed.

POINTS OF VIEW

SCREENS OR GLASSES — Steve Poole

You may remember that in my talk on '25 years of computing' at Coventry, I predicted that portable computers would first have tactile screens, getting rid of keyboards, and that within ten years screens would disappear as images would be projected onto glasses. Futurist you might say, but read this :

At the Createc show in Tokyo, NTT Docomo recently demonstrated AR WALKER. It is a pair of glasses linked to a mobile phone, with a tiny projector putting images onto the glasses. The user can walk around using its GPS in 3D, pull up a map, or look at shop windows with information automatically overprinted on the image.

As expected, my ten year date has been exponentially pulverised. So the next prediction is a finger ring with three accelerometers in it to act as a 3D for the glasses. Then you would keep your mobile in your pocket, with no need to carry any other sort of computing interface with you.

This in turn will make virtual reality an integrated part of our everyday experience. At the speed of present developments, this could happen within a couple of years...

10 YEARS AGO — Geoff Wicks

[The following article is extracted with kind permission of the ql-users list - Ed]

[Urs Koenig wrote:]

Does anybody remember what was up Today 10 years ago?

http://tinyurl.com/QL2000

[Followed by this from Dilwyn Jones:]

Ah, the hive of activity at QL 2000 at the Horizon Centre IIRC. That really was a Quanta event to remember!

At least it took my mind off Wales losing 4-1 at soccer to the Swiss the other night, Urs.... :-(

It is interesting to reread Colin Baskett's report on the forum at QL2000:

TARGET GROUPS:

Children: Arnould Nazarian was arguing strongly for a £100 computer aimed at children with good graphics capabilities.

Schools: SuperBASIC was a good way of teaching programming skills, but we could not break into the educational system. (Interesting how this topic came up this year in the "Future of the QL" thread.)

The elderly: Well, we have plenty of wrinklies now, but that is not what was meant. Four years later a trader opined on this list that UK QLers were too old and decrepit to make the journey to Eindhoven for QL2004. I offered to ask Sin_QL_Air to lay on zimmer frames and nurses. He approved of the latter but not the former.

PS Malcolm: Any chance of a Stannah Lift at the church hall for those ancient Quanta committee members?

Loyalists: It was thought that few enthusiasts for other systems would be interested in the QL, but since that time a few speccies have taken an interest. And how many of you knew that Ed Milliband was a former speccie games geek?

Tinkerers/Programmers: Largely based around the ease of QL programming although one brave soul ventured the opinion that Visual Basic was as easy to program as the QL.

Migrants: Now that's a naughty word these days! In those days it meant trying to persuade PC defectors to come back to the QL. The weapon was to be a bootable CD containing an emulator. How many years did we have to wait for a QL on a stick?

New Users: A forlorn hope. Market was too small for hardware development, but still OK for software. One big problem was TK2, which was not available on PD emulator. Perhaps a help guide to QL jargon was necessary.

PROBLEMS TO BE SOLVED:

Accessibility: Both QDOS and SMSQ should be in the public domain. (This was a few years before the major licensing dispute.) Could Quanta negotiate or purchase SMSQ? Could source code be made available? Also proper documentation was essential. Questions were asked about the new colour drivers and if there were not more urgent priorities.

Software: Many programs were incompatible with SMSQ and all to often the authors could not be contacted - in some cases to contact them we would have needed a stairway to heaven. Quanta could have a role to play here (contacting authors - not building a stairway to heaven with or without a Stannah Lift) and perhaps could provide money if necessary. Also important to make clear which programs were PD and which not. Incompatibility between QDOS and SMSQ.

INTERNET ACCESS:

The need for the QL to have Internet and email access dominated the show. The first email from a QL had just been sent and the future for QL Internet access appeared promising especially for users of the then new Q40. However Jonathan Dent warned that there was much work to be done before working Internet and email programs would be available for the QL. In spite of this some members left the hall claiming that we would all be emailing from our QLs the following Christmas.

Finally among other business was a moan that it was impossible to get hold of a QL - none had been advertised for about three years. Rich Mellor, where were you when we needed you?

CHAIRMAN'S NOTES Sarah Gilpin

My notes this issue are comments on points raised by others regarding the future of QUANTA and the manner in which it is run and the magazine.

Firstly, if you would like things to be changed, please put your name forward to be nominated for the Committee. Things never change if no new blood is added, hence the clauses in the constitution regarding length of service. Over the last four or five years we have added new members to the Committee and we are doing what we can to bring ourselves into the 21st century, often with little or no help from others.

It has been pointed out that although John Gilpin has been a Committee member for over 6 years and Treasurer for over 3 years he is still acting as Treasurer. A request went out to all members last year for a volunteer to take on the Treasurer's role with a marked lack of interest. In accordance with the constitution he stepped down from the Committee, but there was no option but to co-opt John Gilpin to continue in that role. So once again I ask if there is anyone among our members who is prepared and able to take on the role of Treasurer from the A.G.M. in 2011. John cannot be co-opted onto the Committee again. We are also still looking for an Editor for the magazine.

The invitation to sub-groups or others to host the A.G.M. 2011 was issued in the last issue of the Magazine. To date there has only been one offer, from NEMQLUG. We have hosted three workshops/A.G.Ms in the Midlands area to encourage members from all over the country to attend. The 25th anniversary celebration was the best attended as was expected but attendance at the others was disappointing to say the least. Both Ken Bain of the Surrey group and Roy Wood of the Sussex group have said that they are no longer prepared to run workshops because of the lack of attendance (less than 20). Is the Committee supposed to say there will be no more workshops/A.G.Ms for the same reason? That will not happen. It would appear that the only way to encourage those members from the southern counties to attend is to hold the A.G.M. on their doorstep, but why should they be so arrogant and expect everyone else to travel to them?

It has been suggested that the order of the content of the magazine is too Committee orientated. This could just be that the Committee are the only ones prepared to write articles for the magazine with a few notable

exceptions (Steve Poole, George Gwilt, Urs Koenig etc). Some articles written by Committee members are written as themselves and have as much right to be included as anyone else's articles. I am sure that we will look seriously at the order of content to see if it can be improved. The fact that information is there on the Committee actions is as a direct result of the criticism that the Committee worked too secretly and never let members know what was going on. Unfortunately this is something that cannot be had both ways. Equally, if there are some specific topics that members would like covered, please let the Editor know and we can address the subject either in the Help Desk or with a reprint of an earlier article on the subject.

This issue contains the nomination papers for the Committee for 2011 listing the return date. Please remember that nominees and their nominators all have to be members or associate members of QUANTA.

Committee Précis — Alison Southern.

The Committee have received just one offer to host the 2011 A.G.M. We are grateful to NEMQLUG for this offer and will be taking it up. Due to the low turnout at the last A.G.M. in Birmingham we do not feel that we should try the Midlands venues again when NEMQLUG are prepared to provide a venue and a two-day event. This will take place in Mid-April with a Workshop on the Saturday and Sunday Morning and the A.G.M. on Sunday afternoon as usual. A Saturday night dinner is also being arranged.

Nomination for Committee posts are to be returned to QUANTA Secretary by 1st February 2011. Please consider volunteering as new blood is always needed.

JOCHEN MERZ SOFTWARE

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Something NEW is coming!

What it is? A very useful add-on for QPC2 Version 3, programmed by Malcolm Lear.

Soon available from J-M-S, please visit our website in November: SMSQ.J-M-S.com

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- US customers can pay in US$ (convert EUR prices above to US$ by multiplying with 1.42) - no fee for US cheques in US$!

Cheques payable to Jochen Merz only!

Price list valid until 31th of Dec 2010

ANNUAL GENERAL MEETING 2011
NOTICE NO. 2

The A.G.M. of QUANTA will soon be upon us again.

Nominations are invited for the posts of Chairman, Secretary and Treasurer, together with up to 6 ordinary members of the Committee. John Gilpin, our current Treasurer has completed over three years as Treasurer and over six years on the Committee and must therefore stand down under the constitution.(See Clause 5.2). Since our current Chairman and Secretary have only been in post for two years, if they wish to continue in these posts, they will be re-elected unopposed. (See Constitution Clause 5.3)

As normal the posts of Librarian, Assistant Librarian, Magazine Editor, Web Master and Web Administrator will hopefully be drawn from the Committee but this is not mandatory.

The post of Membership Secretary is now combined with that of Treasurer, and that of Software editor is combined with Librarian.

I would like to remind you of the clauses of the Constitution that refer to the Election of Committee Members, Nominations for Committee Posts, and Special Resolutions:-

5.1 Any member seeking election to the Committee shall declare any commercial interest that he or his employer has in the activities of QUANTA or its members.

8.3 All nominations for Committee posts and any proposition to be put at an Annual General Meeting other than the Ordinary Business stated in 8.1 shall be signed by the intending proposer and seconder and sent to the Secretary and be received before 1st February in each year so that it can be circulated with the notice convening the meeting. (All nominators, seconders and nominees shall be members of QUANTA at the time of the nomination.)

8.4 Any proposition to change the Constitution shall be by Special Resolution. A Special Resolution requires to be sent with the notice convening a General Meeting giving twenty-one days notice and requiring a two-thirds majority of those voting.

Necessary qualifications for the Committee are basically plenty of time and lots of energy.

Alison Southern QUANTA Secretary. 5th October 2010

Q-emuLator for OS X Review Jean-Yves Rouffiac

Many users of the QL these days will already be familiar with emulators. However, to date, there have not been any easily accessible emulators for Apple's OS X operating system. Until now that is, with the upcoming release of Daniele Terdina's port of his Windows Q-emuLator software to the Mac.

I first came across the fact that Daniele was writing a version for Macs sometime in early 2010, possibly when lurking on the QL Mailing archives. Having been a long-time owner of his Windows product, I was very excited to hear that I would be able have an emulated QL on my favourite contemporary OS. But being an impatient sort, I decided to email Daniele and offer my services as a tester, in the hope of getting my mitts on the product earlier. To my great joy and some surprise, he emailed back very quickly and agreed.

The first version that I got to play with was already remarkably stable, especially with regards such things as SuperBASIC programs, Psion programs, TK2, native file system access, using the various ROMs such as JM, JS and Minerva. Of course, this was still an early alpha-state program (ie not feature complete nor considered stable for normal use) so there were several bugs. There have followed numerous months of email exchanges, updated versions to test, and the honing of a product into something that I believe others are going to be delighted with once they get their hands on it.

There seems little point in me going over what Q-emuLator does at a high level since it emulates a QL, and I'm pretty sure that anyone reading QUANTA will know what that can do. Better for me to discuss what it does differently, what it does better, and in a very few cases, what it cannot yet do.

The first thing to note is that this is not a Universal Binary. That is to say that you will need a Mac running on an Intel processor - all Macs in the last few years have these, so if yours is fairly recent, you should be OK. You will also need to be running OSX version 10.5 or higher. If you are not sure whether your system meets these requirements, Go to the Apple Menu and click on “About this Mac”. You will see something like the following:

As you can see from this, my system is running OS X 10.6 Snow Leopard (the latest version of the Operating System), and Q-emuLator is fully compatible with this version and the slightly older Leopard (10.5).

Don't despair if you find that your specs do not match the the minimum requirements, as you may still be able to run the older version of Q-emuLator for MacOS Classic, especially if you have a PowerPC (PPC) processor, and OS X Tiger (10.4) or earlier as these can run MacOS Classic in emulation (so you'd be emulating a QL emulating a classic Mac on an OS X Mac. Neat!)

So, assuming you can run the latest version, how do you get it running? After installation (simply drag the contents of the archive into your Applications folder – you may need to provide your admin username and password if you are running as a standard user account, which you should really be), go into the Q-emuLator folder in Applications and double click the Q-emuLator icon. You will be presented with a screen that will be familiar to users of the Windows version:

You will notice that Q-emuLator uses two windows, the main QL window and a devices window, called 'Microdrives'. This second window can be expanded to show up to 8 possible devices. Clicking on one of the microdrive slots allows you to assign either a physical floppy drive, a QXL.WIN

file, a directory on your hard drive, a read-only Zip/QLPAK file (more on this later), and new as of the latest beta, microdrive and disk images.

You can then access any of your assigned devices as you would normally use, eg as mdv1_, flp1_, win1_ whatever. This means that if your software has flp3_ hard coded rather than mdv3_, it really does not matter – Q-emuLator knows that you want to access the files in slot 3. Very handy indeed.

Before we launch our virtual QL, a quick note on what the menus on the OSX menu bar offer us:

"Q-emuLator" provides us with standard OS X application functionality, such as an About box, the ability to hide other applications to concentrate on our QL, and most useful, the ability to print the contents of the QL screen to printer or PDF (via the Preview option).

"File" allows us to load up saved configurations, or revert to the default (JS/640K, full speed). The default values can be changed and saved too, which is nice.

"Edit" provides access to the Mac's special characters palette and a Paste function. I have not managed to get this to work, so it may still be a feature-in-waiting.

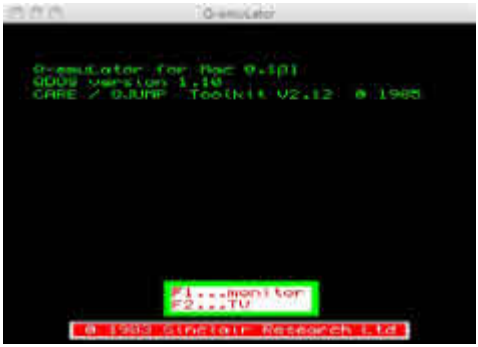
"QL" allows the user to start, stop and reset their QL, as well as to configure what ROM to use, what devices to support, whether to skip the startup memory check and so on. It also importantly allows the user to select the amount of RAM to allocate to the QL, one of 128K, 640K (the default), 4MB, 8MB, or 16MB.

"Speed" allows the selection of the desired speed, either Full Speed (default), Original QL, or Gold Card. Useful for running some older games which run too fast at full speed!

"Window" is standard OS X windowing stuff (minimise etc), and the **"Help"** menu will have a full help text in the final release, Daniele informs me – at present you get a dialogue saying that help is not yet available but that the final version will feature a PDF help file.

You may have noticed that there is no option to set the screen size – that is because this is achieved by simply dragging the bottom right hand corner of the screen to expand the size to whatever you desire. Very nice.

Ok, so let's click on QL->Start, and we're off:



From hereon in, it's just like being in a real QL, so really there's not too much to say other than on this Mac the application absolutely flies! Of course I have a rather zippy Mac, but this is also thanks to the fact that this is a compete rewrite of the Q-emuLator code in Cocoa, Apple's OS X's underlying technology framework for building apps. The Mac version is NOT the Windows version with some kind of wrapper around it. It is a bone fide native Mac app. Daniele really should be applauded for taking this huge task on.

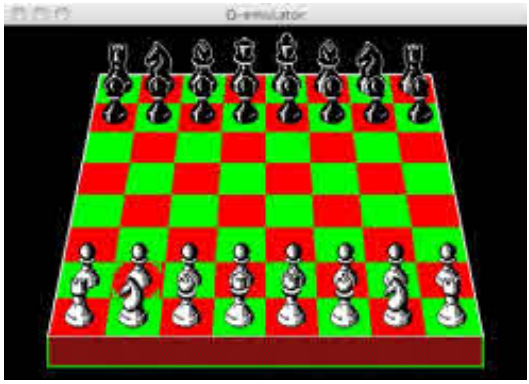
Since TK2 is included, you get all the usual goodness of TK2 such as the full screen editor, the better file handling, etc, etc.

The Pointer Environment is of course fully supported (I have played about with my copy of QRAM and other PE apps quite happily).

One thing to note though – if your old apps are peppered with FLP_USE MDV, you will need to remove these statements, as they are not supported. I believe that the FLP_USE MDV command is a disk interface-specific command, which is not needed on the emulator.

Some apps I have run on the emulator without any issues: Perfection SE, Conqueror, the Psion quartet, Assault and Battery (arcade game), my Dreamlands adventure (both in BASIC and Q-Liberator version), QRAM, C1 Pascal, McSporran's Lament, Voyage of the Beano, Chess. I have probably run over 100 apps and the worst we've come across is the odd machine code demo with corrupt colours.

Speaking of Chess, Daniele has come up with a new file format, QLPAK, which is a sort of compressed folder which contains everything required to run an app, such as QL Chess. Chess typically needs to run in 128K mode, and is of course copy protected. The QLPAK file I run it from sets the emulator to use a compatible ROM, 128K, appropriate speed, and emulates the mdv2_ copy-protection! What's more, as the qlpak file type is automatically associated with Q-emuLator, all you need do is double click on the file in the OS X Finder (file manager) and Q-emuLator fires up automatically with the correct configuration, then runs the program:



I can see this being a very useful way to package up applications in such a way that all necessary files are included and all the user has to do is double click on a single OS X file. Being OS X, a custom icon could also be included to make it even more seamless. Q-emuLator could also skip the startup F1/F2 prompt, if the QLPAK creator decided to set that in the config.

It is worth noting that Q-emuLator on OS X is able to run the Gold Card version of SMSQ/E. Initially though, only the standard QL modes and resolutions will be supported. I suspect that if enough people request it, adding improved graphical capabilities is something that will be added in a future version.

Whilst writing this review, I found out via Daniele that floppy disks can be formatted. I had assumed that they could not. This must be done via the

QDOS FORMAT command, as there is no option in the File menu. Maybe something for a later version?

Sound is fully supported too, which some may count as a curse given the QL's distinct lack of musicality! I'd like to see an option in the QL menu to switch it on and off, ideally.

So, what are the limitations? Not too many, as it turns out. Aside from the understandable lack of high-resolution capabilities in the initial release, there are a few other small things to be aware of:

QL networking is not currently supported, although Daniele has considered adding it. It's something that might be quite fun to have – imagine two emulated QLs talking to one another over the original QNET protocols!

You create subdirectories without including a toolkit/program that supports it, although Daniele informs me that he might be adding native support for MAKE_DIR at some future stage.

One long-term niggle which is planned to be done prior to launch is that at present you cannot save your screen size, so it resets itself to a default size each time you launch the program.

That's about it. Q-EmuLator for OS X is due for public release before the end of the year. At present, there is no published price, nor are there any firm details on whether there will be a cut-down free version running at original QL speeds and limited memory at launch. Again though, this is something that Daniele is keen to see in the future at some stage. Users will be able to request temporary licenses when they first run the emulator.

At present, Daniele is writing the manual which is talking up a lot of his time.

I hope that I have given you some taste of what this software is like. I cannot recommend it highly enough. It is what got me back into the QL scene, after a long hiatus and I'm thoroughly enjoying rediscovering all things QL.

Daniele's website:

http://terdina.net/ql/q-emulator.html

COLOUR INVERSION — Steve Poole

Some computers sold in the early eighties had an INVERSE function which would let you swap the paper and ink colours. This simple program will show you how to do this using the RECOLOUR keyword. This keyword is quite sophisticated, but does not work on SMSQ, so not on QPC either.

But recolour is quite complex in its implementation, and takes quite a lot of experimentation to master. But I found out that by simply repeating the call with the parameters in the same order it would act as an inverse function.

So the program first LISTS itself to save you having to put anything on the demonstration screen. Then it calls INVERSE twice to prove it inverses correctly. Finally, it emulates the same behaviour by swapping paper and ink colours before listing, so people with SMSQ can see what it does. This is why the listing is full of colons, as otherwise the listing would have limited STRIPs.

But of course, it can inverse any graphics as well as text, which is what makes it of particular value. RECOLOUR has not been described much in QL Literature, so I thought this implementation could be of some use to members. Experiment with the recolour parameters if you wish to learn how the procedure operates.

You can do many things under QDOS that are not possible under SMSQ, and I may give some other examples in future editions of this magazine.... such as MIStake!

```
100 :                                    :
110 REMark INVERSE by S.Poole v18feb2010:
120 REMark only under QDOS systems       :
130 :                                    :
140 WMON: PAPER 0: INK 7: CLS            :
150 LIST#1: PAUSE 50                     :
160 :                                    :
170 RECOL 7,7,4,4,2,2,0,0: PAUSE 50      :
180 RECOL 7,7,4,4,2,2,0,0: PAUSE 50      :
190 :                                    :
200 PAPER 7: INK 0: AT 0,0: LIST#1       :
```

```
210 PAUSE 50                                :
220 PAPER 0: INK 7: AT 0,0: LIST#1          :
230 :                                       :
240 :                                       :
250 :                                       :
260 :                                       :
270 :                                       :
280 :                                       :
290 :                                       :
```

End of listing.

Quanta News — Dilwyn Jones

QL Group On Facebook

Rich Mellor writes:

For those of you who are registered on Facebook, I have taken over the administration of the Sinclair QL page.

http://www.facebook.com/pages/Sinclair-QL/32408594350

I have uploaded photos and screen shots of hardware and software and have invited people to have a go at identifying what they are.

The QL On Facebook

HxC Disk Drive Emulator

Rich Mellor writes on (18/08/10):

We have now successfully tested the HxC Floppy Disk drive emulator with the Sinclair QL home computer, meaning that you can now copy raw images of Sinclair QL disks to an SD card, and then connect this floppy disk drive emulator to your QL's disk interface and read/write to an SD card instead of floppy disks.

The latest v3.0 of Q-emuLator supports raw disk images, so when that is officially released, you should be able to use that to get software into the raw disk format required. Then all you need to do, is to convert it using the supplied HxC software, copy it to the SD card and then hey presto, the QL sees it as a floppy disk! At the moment, I can only get Q-emuLator to read from raw disk images, although Daniele is working on raw disk image support.

You can copy any number of floppy disk images to your SD card, and then use the buttons on the front of the control panel to set up which disk image is to be seen by the Sinclair QL as FLP1 and which is to be seen as FLP2.

Currently, it only appears to support DD disks, although I daresay it will work with other disk types if I had some raw disk images of QL HD and QL ED disks to try (I cannot make them on my PC).

Ideally, we need to find some power supplies which can be used to power these units - at the moment, we are using an old external floppy disk case. Also, for some reason, both the Gold Card and the MicroP disk interface we have here needed the cable the other way around to the QL norm!

This means that the HxC Floppy Disk Drive Emulator available from SellMyRetro.com

http://www.sellmyretro.com/search/naturalSearch?keyword=hxc

has now been shown to successfully work with all of the following equipment as a complete replacement for the good old floppy disk drive:

* Any computer / piece of equipment that uses PC formatted floppy disks (3.5", 5.25" or even 8" drives)
* Atari ST/STF/Falcon
* Amstrad CPC6128
* Commodore Amiga (currently write only)
* Dragon 32 / 64 (VDK or JVC disk format, which should also therefore work with the Tandy CoCo)

* Emax and Emax II Sampler
* Ensoniq Mirage Sampler
* Korg DSS-1 Synthesizer
* MSX2
* Oberheim DPX1 Sampler
* Oric Computer (with MicroDisk)
* PC
* PC88
* SAM Coupe *.MGT and *.SAD formats
* Sinclair QL raw disk images
* Sinclair ZX Spectrum +3 or Sinclair ZX Spectrum with PlusD disk Interface
* Super Wildcard DS-SWC3201
* Thomson TO8D
* TI99/4A
* x68000

The HxC Floppy Drive Emulator (picture from SellMyRetro.com)

SETW Update

SETW, which produces Window Definitions for PE programs written in Assembler, C and TurboPTR, is now at version 7.06.

Recent changes are:

1. The ability to store a much larger number of user sprites, blobs and patterns.
2. Allows windows and sub windows to be set to clear or not clear when they are drawn.

QL Today

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3. Gives the choice of setting the arrow keys either to move or not to move the pointer in main windows and application sub windows.

   This version is available on my website

http://web.ukonline.co.uk/george.gwilt/

George Gwilt's QL website

DIY Internal 512K Expansion

Miguel Angel Rodriguez Jodar writes:

Hi! This is to inform you that I've just finished a little DIY about internally upgrading the QL memory to the official maximum of 640KB.

The thread where I explain the details (in Spanish):

http://www.speccy.org/foro/viewtopic.php?f=15&t=2056

The quick and dirty Google translation into English (very dirty, but enough to "catch the essence")

http://translate.google.es/translate?u=http%3A%2F%2Fwww.speccy.org%2Fforo%2Fviewtopic.php%3Ff%3D15%26t%3D2056&sl=es&tl=en&hl=&ie=UTF-8

The DIY 512k Expansion (picture from Speccy.org)

Monitor Versus QL

An interesting discussion arose on the QL-Users mailing list recently,about attempts to connect a QL to a more modern monitor system. The thread started with this email from Rich Mellor:

"A customer has passed an interesting little web page (in Spanish) to me about connecting a QL to a VGA monitor -

http://www.speccy.org/sinclairql/articulos/bricolaje/RGB_VGA.html

See
<url:http://translate.google.com/translate?js=n&prev=_t&hl=en&ie=UTF-8&layout=2&eotf=1&sl=auto&tl=en&u=http%3A%2F%2Fwww.speccy.org%2Fsinclairql%2Farticulos%2Fbricolaje%2FRGB_VGA.html&act=url>
for the English translation

Does anyone have any thoughts as to whether this would work - and could it be used to connect to a more modern SVGA?"

In response, Kjartan Geble Olsen wrote that it might not: "I don't think you'll find any modern monitor supporting 16KHz horizontal synch which I believe the QL supplies."

Phil Kett picked up on this with a suggestion: "There are devices available that will take a scart RGB signal and convert it so that it will work on

a modern SVGA or LCD monitor.

Here's one from Maplins.

http://www.maplin.co.uk/Module.aspx?ModuleNo=217685

Meanwhile, in response to Rich Mellor's original question, Miguel Angel Rodriguez Jodar wrote: "I'm afraid it won't work at all. It's a real pity modern SVGA's don't do multisync as in the good old days :(

On the other way, I've managed to work it out using a RGB-to-VGA converter, as used for connecting JAMMA boards to VGA monitors. I wrote a review (Spanish, but with a lot of pictures, so even without translation you'll get an idea) about it here:

http://www.zonadepruebas.com/modules/smartsection/item.php?itemid=1225 "

Linus Torvalds Gives QL Interview

Urs König writes:

"Two famous ex QLers who made a difference in the IT world met at LinuxCon in Sao Paolo, Brazil recently. On a spare minute at an excursion to the Sao Paolo zoo they had a chat about their experiences with the Sinclair QL. This has been filmed by Jeremy Allison and the video is on YouTube now. Watch it!

http://tinyurl.com/ql-videos
(third video under Favorites)

BTW: End of last year I set up a web page about Linus QL contribution GMOVE.

http://tinyurl.com/Linus-QL

Jeremy's QL best known QL contributions are ARC and PDQC which are still available in many PD libraries."

QPC2 Without QXL.WIN

Malcolm Lear has taken a rest from updating his PCB Design program this month and turned his attention to QPC2. Back in August, he wrote to let me know that he had got QPC2 to boot up and run all programs quite normally without a QXL.WIN. All files are held in a normal windows directory along with QPC2 itself. Malcolm has written a program that embeds the dataspace info (64 byte header) at the end of executable files. A patch then intercepts EX, EW, EXEC_W, EXEC, ERT, EXEP, and other keywords, retrieves the new header and carries on. He said that QPC itself required a small patch to get it to boot from a DOS drive.

Over the following weeks he sent me various test versions, along with small patch programs to run, and indeed the system seemed to work remarkably well right from the early versions. It has been an interesting experience seeing QPC2 run without dependence on a QXL.WIN – running a QL emulator in Windows and having the emulator save its files in a native format on the Windows hard disk gives it another dimension. Since the emulator saves executables with the header “appended” to the binary, you have to be careful if you move the executable to a QDOS system to “unpatch” that file, of course.

The version I have been using requires you to run two small patch programs, one to patch the emulator, and one to copy all files over from an existing QXL.WIN to the native Windows system. This requires that a small

piece of extension code be loaded, and a short DOS_USE WIN command be included in the boot file to make it easier to run programs configured for the WIN device.

While the distribution channels for this software have yet to be formally announced, it is known that Malcolm has approached the publisher of QPC2 with a view to asking if he would be interested in supplying the patched version – I hope to have more news about this in the next issue.

OSX QemuLator news

The OSX version of QemuLator is now almost ready for release. We have an article from Jean-Yves Rouffiac which refers to it in this issue, and as he has been Beta Testing the emulator for Daniele Terdina, we have asked Jean-Yves to write a review for us too. Rich Mellor also refers to its capability of running QL raw disk images, which opens up several interesting possibilities.

This release of QemuLator is bound to find a niche in the QL market as the only QL emulator specifically produced for the OSX systems. With the increasing popularity of Apple OSX operating system devices, I'm sure many QL users will be watching developments closely!

Wordbox

A new CD-ROM for the word and text lovers among us. This QXL.WIN CD-ROM features a wide range of word lists for various languages in plain text format, QTYP spell checker dictionaries and Lexicons, along with a dictionary program with the option of translating words to or from English and a number of European languages including French, German, Italian, Spanish, Dutch, Swedish, Norwegian, Danish, Portuguese, Maltese, Irish Gaelic, Scottish Gaelic, Welsh and Finnish. Oh, did I mention Latin too?

The CD also includes a number of programs of interest to the Word lover, including crossword solving aids, spelling aids, education and game programs (including a demonstration version of the fabulous Q-Word program for GD2 systems), a rhyming dictionary, thesaurus, style checker, word count utility for text files and documents, indexing programs, anagram aids, a literature references database system for Archive and much more.

The CD-ROM will be available shortly from Dilwyn Jones and from Quo Vadis Design for just 5 pounds.

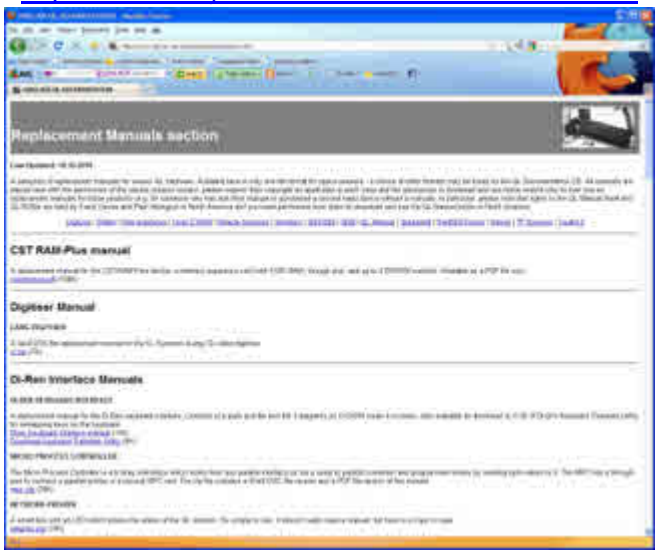
More Replacement Manuals

Thanks to Rich Mellor, I have been able to add two further replacement manuals for QL add-ons to the replacement manuals page on my website. As it is so common to buy second-user hardware without getting a manual, this collection of manuals is very useful. The first is a replacement manual for a PCML Q+ Disk Interface, which includes the documentation for the PCML toolkit v1.14 / v1.16, containing Toolkit 2 style extensions, the facility for direct sector access, ramdisks and hints on getting the Psion QL programs to run from a floppy disk. It also shows how early games able to run on 128K systems may be run without having to unplug the disk interface card. This is only available as a 17 page PDF file.

The second is a replacement manual for the CST RAM Plus card, which consists of 512K RAM for the QL, plus up to 4 EPROM sockets, shown as “27256” EPROMs. The manual notes that to use EPROMs, a JS, MG or later version of the QL ROM is required (earlier versions could only handle one expansion ROM unless you had specially written code to help the startup routines). This manual is also only able as a PDF file.

Both can be downloaded from the Replacement Manuals page on my website, at

http://www.dilwyn.me.uk/docs/manuals/index.html



The CST RAM-Plus card

The PCML Q+ Disk Interface

Using an SD Memory Card with the Sinclair QL

Rich Mellor

With support for double density disk drives having now been removed from Windows 7, we were finding it increasingly difficult to transfer software between the Sinclair QL and PC. Yes, you can make up a lead and transfer data and programs using a serial link between the two computers, but we missed the simplicity of using floppy disks.

Also, as floppy disk drives begin to wear out, and it's increasingly difficult to find suitable floppy disk drives which you can make into a master (DS0) instead of slave, we decided to look for other alternatives.

This is where the HxC Floppy Disk Emulator comes in. It is a small well built interface (unboxed) which simply connects to a standard floppy disk interface and allows you to store floppy disk images on an SD card.

So far as the QL (or many other computers are concerned), they are using a real floppy disk drive, with read and write capabilities (although not format).

What do I need to connect it to the QL?

To connect the HxC Floppy Disk Emulator, you will need any standard disk interface for the Sinclair QL, plus a floppy disk drive cable (you can even use a PC twisted cable if necessary), and a power supply - one from your old floppy disk drives will suffice, otherwise you will need to purchase a 2A 5V power supply and add a floppy disk power connector.

The only odd thing is that the cable is upside down for a QL disk interface for some reason - so you need to file off the locating lug on one end of the cable, so that you can turn it upside down where it plugs into the QL disk interface.

How do I get floppy disks onto the SD card?

This is the slightly more technical part at the moment. You can use tools such as RAWREAD / RAWWRITE on the PC to make an image of a QL floppy disk and store it in the .raw format on your PC. The latest version of Q-emuLator (v3.0 - still in testing) can read and write to these raw disk images, so that means what we did was to create a blank disk image, and then use Q-emuLator to copy existing files and programs across.

You then need to use the software supplied with the HxC Floppy Disk Emulator to convert these raw disk images into a format understood by the emulator. Fire up the software, put your SD card into a PC card reader, and go to the Settings Menu.

Once in the Settings menu, you will need to untick Auto, and then select Generic Shugart as the Mode - this is because the parameters for the QL have not yet been incorporated within the software.

You can also tick to say if you are using a twisted (PC) cable between your QL and the HxC Floppy Disk emulator. Leave the other options as per defaults.

Now, you need to go back to the main screen and click on Load Raw Image.

This brings up what at first glance appears to be quite a complex screen, allowing you to set up the various parameters which define the disk image in use.

The above (default) settings are fine for a QL DD disk - if you are using a disk image of a HD disk, then you will need to change the number of sectors per track from 9 to 18 and the bit rate will also need to be increased from 250000 to 500000. On my Gold Card, I also needed to use FLP_STEP 6 to successfully load disks.

You can then click on Load RAW file, and file the necessary .raw disk image file on your PC's hard drive. You then need to click on EXPORT and save the resulting file to your SD card (this can take a few seconds). Once complete, the disk details will scroll through the small window underneath the Settings button.

You can repeat this method (or use the convert button) to store numerous disks on the SD card at the same time (the device supports up to 32GB SDHC cards).

Now you can insert your SD card into the HxC Floppy Disk Emulator and connect it to your QL. As with disk drives, you are best to power the HxC

Floppy Disk Emulator before the QL, but once powered, you can swap the SD card as you like.

The three buttons on the front of the unit allow you to select a disk image to use as FLP1_ (drive A) and one to use as FLP2_ (drive B). If you want to use two disk images as dual disk drives, you will need to add a second jumper to the block next to the cable. However, you can also use the unit as a secondary drive alongside a real disk drive if you so wish - just set the jumpers to dictate whether the unit should be FLP1_ or FLP2_.

The LCD screen on the top (which can be detached if you want to mount the emulator in some way) shows you the current disk image name and also shows progress through the tracks as you load / save programs.

Once connected, that's all there is to it - your QL will think it has two disk drives connected and an endless supply of disks.

The HxC Floppy Disk Drive Emulator can be purchased for £72 plus postage from:

www.sellmyretro.com

USBWiz — Adrian Ives

[Adrian Ives sent an email to the mailing list concerning progress with his USBWiz prototype, a serial device which has onboard support for SD cards and some USB devices. We have reproduced his email here, slightly edited for length. Adrian reported that development had stalled for a while, following his move to Cornwall, but the email reflects the current state of development. - Ed]

"I have built a prototype USBWiz "Black Box" that contains the USBWiz and an RS232/TTL serial level converter. This presents two USB ports and one SD Card slot, several status LEDs and a serial connection to the QL. Power is via a generic Maplin 5V PSU intended originally to charge devices via their USB connection.

There is a functioning file manager program, written in TURBO'd SuperBASIC that allows access to FAT formatted SD Cards and USB Drives. Files may be transferred to and from the QL, and the extended attributes (i.e. the 64 byte header for executables) is preserved. At the moment the program operates in character mode, but my plan is to migrate this to the Pointer Environment very soon. Using an Aurora and a superHermes I have been able to maintain reliable transfers at 115K.

There is a part functioning driver that allows SD Cards and USB Drives formatted as native QL volumes to be mounted, although the formatting has to be done with a standalone program. The driver DIR and STAT to function but is not yet capable of reading/writing complete files much larger than a couple of K .

Here is why: The driver is built upon the shell of the QUBIDE ROM, with its hardware access routines stripped out and replaced with calls to a layer that sits above the serial driver and processes Sector Read/Write commands (actually a very simple ATAPI command emulator). Unfortunately, the serial driver has to operate in Supervisor Mode and so does the USBWiz driver, so the result is a deadlock. I really need to go back to first principles to fix this, but just haven't had the time. One solution is to replace the serial driver with a unified driver that handles normal serial IO as well as the meta commands to get/put sectors via the USBWiz.

I can't commit to any time scales, but I hope to restart development next month (November) and had planned an article for submission to QL Today.

So, in summary, this "can" be made to work; the question is whether the finished product would be fast enough to bring much benefit. I'm in a frame of mind at the moment that says the best way might be to build a custom board that plugs into the expansion connector. But that's a whole other ball game!"

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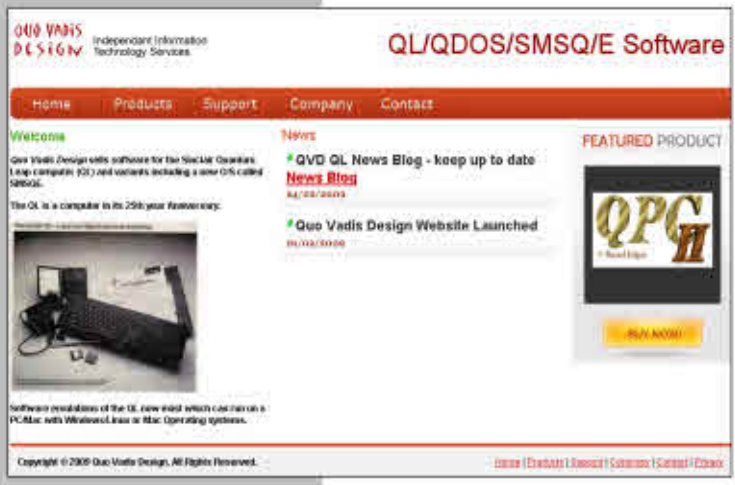

QL/QDOS/SMSQ/E Software

Check the QL News Blog on our website for updates.

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FOR SALE AND WANTED

WANTED - A SAFE RETURN (Reprinted from QUANTA Nov 2002)

About 12 months ago *[2001]* I had a call from someone requesting that I lent my copy of Chas Dillon's Archive book to him on condition it was returned as soon as it had been copied. Nothing has been returned, and I now have forgotten who asked me for it.

I NEED IT NOW!!! ***[And it is still missing in 2010 - Can anyone HELP?]***

Alfred Kendall

If you can help, please contact agk@lineone.net Or Editor@quanta.org.uk

Quanta Vol. 2 Iss.1 Page 37.

ARCHIVE NOTES

Chas Dillon who has been doing a lot of work with Archive, has written about 100 pages of notes for members who would like to get the best from this powerful piece of software. The Group will be publishing these shortly, and they should be available in a couple of weeks from Brian. I don't know the price yet as we haven't given them to our printer for a quotation.

Chas is doing a session on Archive at the Swindon workshop, and we hope to be able to have copies available for sale at the meeting.

In Letter from Leon Heller

Charles Dillon, the group Archive expert, has developed a program which recovers data from a corrupted Archive file. Several members have used the program successfully. Dillon has also written a very useful booklet which has been published by the group on the use of Archive.

[If this booklet is found, QUANTA will convert it into a .pdf file and put it on their web site and in the Library for the use of all members - Ed]

I too would like to place a Wanted ad.

I'm after **QL games** and also **issues of the QL Adventurer's Forum** to buy. Please contact Peter

peetvanpeebles@yahoo.co.uk.

QUANTA HELPLINE Dilwyn Jones

Members wishing to submit Helpline requests via email can use the email address helpline@quanta.org.uk or if you prefer to use traditional post, please send the Helpline request to me via the address printed inside the front cover of the Magazine.

Obviously, we cannot guarantee to answer every query we receive, but we will do our best! Where we have been unable to answer the queries, we may print the help request as an open request in the newsletter to ask if any of the readers can come up with a solution. And, of course, if readers feel that they have a better solution than we came up with, or would like to correct any errors we make, please write to us!

Merge Sorting, Duplicates and Binary Searching

For this issue, I'm going to discuss merge sorting files, searching lists and eliminating duplicates. I received what appeared to be a simple and straightforward query via the Helpline a few weeks back and didn't realise at first how much work would be involved in researching it! As you'll see below, the reply turned into quite a full-blown article.

The original question was:

"I have a number of word list files containing thousands of words, each sorted into alphabetical order. What I'd like to do is to join these files together into one sorted list and eliminate any duplicates resulting from joining together the lists, then add my own words to the list. I've tried using various QL text editors and word processors and none really seems to manage such long lists of words."

Dealing with the last sentence of the query first – the usual reason is that since word lists are usually a text file list with an end of line character

at the end of each word, word processors in particular see these lines as very short paragraphs. For example, here's a simple list:

and
but
either
or

In a plain text file on the QL, these words are all followed by a linefeed character, otherwise known as CHR$(10). Word processors usually work by paragraphs, not individual lines of text. So short lines quickly eat up the available number of paragraphs.

Some QL text editors and word processors use a 16 bit line counter value, limiting the program to an absolute maximum of 32,767 entries (or about 65535 if using unsigned arithmetic). Word lists of the type described, especially if to be used with a spell checker program, for example, can easily consist of 20,000 to 50,000 words and if you join these together, you will quickly see that word processors in particular will quickly struggle to control this number of paragraphs, however small they might be! Equally, if the lists are to be handled by a BASIC or compiled BASIC program, with the words held in arrays, you will just as quickly run into problems as the maximum number of array entries you can get into a string array is also about 32,767 entries and anyway, just imagine the time it would take to try to sort such a huge number of strings in BASIC. You could try using Steve Poole's arborescent sort routines previously published in Quanta, or Alan Turnbull's Quicksort on Library disk UG01, or even Ron Dwight's machine code sorting routines on the same disk, but any sort of this nature will only be able to cope with the maximum possible dimensions of string arrays in BASIC.

So we need to look at this from a different perspective.

Merge Sort

As the word lists are already in a sorted file, (I'm presuming these are the kind of word lists you can download from the Internet, e.g. from Geoff Wicks's website at

http://members.multimania.co.uk/geoffwicks/dictionaries.htm

or from my website at

http://www.dilwyn.me.uk/diction/index.html)

one simple way of joining the files and sorting while merging is to use something called a **Merge Sort**. Basically what this does is to take one entry from each file and write the appropriate entry (usually the lowest in alphabetical order) to a new output file, then read another entry from the same input file and keep doing this until the supply of words from one file is exhausted, then write out the remainder of the other file until that too is exhausted. And so am I after typing that – don't worry, it's actually easier than it sounds!

At this point I'd like to express my gratitude to Miguel Angel Rodriguez Jodar who works as an associate professor at the Architecture and Computer Technology Dept., University of Seville, Spain. Besides his academic duties, he runs a small computer museum, placed at the main hall of the Computing Science High College facilities. Miguel also has a website for people who tinker mostly with Spectrum hardware projects at:

http://www.zxprojects.com

and he also takes an interest in QL systems. I asked for help with this query on the ql-users mailing list and true to the helpful nature of that list, Miguel popped up to offer me a "pseudo code" listing (not a QL BASIC listing, although fairly similar) which I could use as the basis for a QL BASIC routine. A little bit of QL BASIC programming later and here's what I came up with. The listing should be fairly self-explanatory – I've included a lot of REMark statements to explain what each part does. Please note: both input files must already have been sorted into alphabetical order.

```
1000   DEFine   PROCedure   Merge_Sort_Files   (inputfile1$,
inputfile2$, outputfile$)
1010    LOCal x$,y$,loop1
1020    OPEN_IN  #3,inputfile1$
1030    OPEN_IN  #4,inputfile2$
1040    OPEN_NEW #5,outputfile$
1045    :
1050    IF EOF(#3) OR EOF(#4) THEN
1060      REMark oops, one file is empty before we've even
started!
1070      IF EOF(#3) THEN
```

```
1080       Copy_Remainder #4 TO #5 : REMark file1 is empty
1090     ELSE
1100       Copy_Remainder #3 TO #5 : REMark file2 is empty
1110     END IF
1120   ELSE
1130    REMark neither file empty, so get first entry from
both files
1140     INPUT #3,x$
1150     INPUT #4,y$
1155     :
1160     REPeat merging
1170       REMark compare x$ and y$
1180       IF x$ < y$ THEN
1190           REMark element x$ is smaller; write x$ to
output file
1200         REMark and read new x$ provided there is any;
1210          REMark otherwise copy the rest of file2 to
output file
1220         PRINT #5,x$
1230         IF NOT EOF(#3) THEN
1240           INPUT #3,x$
1250         ELSE
1260          PRINT #5,y$ : Copy_Remainder #4 TO #5 : EXIT
merging
1270         END IF
1280       ELSE
1290           REMark element y$ is smaller; write y$ to
output file
1300         REMark and read new y$ provided there is any
1310          REMark otherwise copy the rest of file1 to
output file
1320         PRINT #5,y$
1330         IF NOT EOF(#4) THEN
1340           INPUT #4,y$
1350         ELSE
1360          PRINT #5,x$ : Copy_Remainder #3 TO #5 : EXIT
merging
1370         END IF
1380       END IF
1390     END REPeat merging
1400   END IF
1410   CLOSE #3 : REMark input file1
1420   CLOSE #4 : REMark input file2
```

```
1430   CLOSE #5 : REMark output file
1440 END DEFine Merge_Sort_Files
1450 :
1460 DEFine PROCedure Copy_Remainder (ip_chan,op_chan)
1470   LOCal copying,y$
1480   REPeat copying
1490     IF EOF(#ip_chan) THEN EXIT copying
1500     INPUT #ip_chan,y$
1510     PRINT #op_chan,y$
1520   END REPeat copying
1530 END DEFine Copy_Remainder
```

LISTING 1 : mergesort2_bas

So, that solves the first part of the problem – to merge sort the two input files, just enter the command Merge_Sort_Files 'file1','file2', 'output_file' (enter the relevant filenames in place of 'file1', 'file2' and 'output_file' of course).

Eliminate Duplicates

The next step is to eliminate duplicates from the merged list. I'll treat this a separate programming issue just to simplify the matter. We need to remember that what we have done is to merge two text files into one, both of which were already sorted, and the newly created merged file is also in alphabetical order.

The easiest way of doing this is to copy all of the entries from the new file into yet another new file. We remember what the last entry was, and if the next entry is the same, we simply don't copy it.

```
100       DEFine       PROCedure       Eliminate_Duplicates
(original_file$,new_file$)
110   LOCal copying,word$
120   OPEN_IN #5,original_file$
130   OPEN_NEW #6,new_file$
140   previous$ = '' : REMark remember what previous entry
was
150   REPeat copying
160     IF EOF(#5) THEN EXIT copying : REMark all done
170     INPUT #5,word$
180     IF NOT(word$ == previous$) THEN
```

```
190        PRINT #6,word$
200        previous$ = word$
210      END IF
220    END REPeat copying
230    CLOSE #5 : CLOSE #6
240 END DEFine Eliminate_Duplicates
```

LISTING 2 : eliminateduplicates_bas

So if we wanted to eliminate duplicate entries from a file called "mergedwords_txt" we would use the above routine to copy the file to a new file called "noduplicates_txt" as follows, assuming that both files are/will be in ram drive 1:

Eliminate_Duplicates "ram1_mergedwords_txt" TO "ram1_noduplicates_txt"

Note how I use the keyword TO instead of a comma between the filenames. You can use either. I just find the keyword TO makes it easier to read – more meaningful. This is one of the great things about QL BASIC. Another is the use of the "approximately equal to" (==) operator, which allows strings to be compared irrespective of case, that is, it allows the QL to treat DILWYN and DiLwYn as being equal. Very useful – it helps prevent you having to convert all string text to the same case for comparison purposes, using functions like UPPER$ and LOWER$ available in some toolkits.

The mergesort routine above copes with having some words in the files in what is called Mixed Case, i.e. proper nouns with the first letter in upper case. It simply puts upper case words first.

Adding New Entries

The last part of this project is to allow new words to be added to the list. I'll look at a couple of ways of doing this, both of which have their limitations, but at least should offer me the chance to explain searching through sorted files to locate matching entries and how to determine where the new entry should go.

First, I'll look at the simplest brute force approach! Basically, it's as simple as copying the entire file until we find the point at which the new word should go, insert the new word at that point, then copying the remainder of

the file to the new file. The trouble with this type of brute force approach is that (a) we have to search through the entire file for every word entered, which might take a long time if it's a word which comes late in the alphabet, such as the word 'zebra', and (b) we have to copy to a new file each time, so it needs twice as much space.

Here is one way of achieving this. We take the 'safe' approach of copying the amended file to a new name, before deleting the original, copying the new file to the original name and once all that's been successful, delete the newly created temporary file.

```
100 REMark add a new entry to a file
110 CLS : CLS #0
120 INPUT #0,'Word list filename > ';ip$
130 INPUT #0,'Name of temporary file > ';op$
140 REPeat program
150   CLS # 0
160   INPUT #0,'New word > ';word$
170   IF word$ = '' THEN EXIT program
180   OPEN_IN #3,ip$
190   OPEN_NEW #4,op$
200   found% = 0
210   REPeat write_out
220     IF EOF(#3) THEN EXIT write_out
230     INPUT #3,str$
240     IF str$ == word$ AND found% = 0 THEN found% = 1
250     IF found% = 0 THEN
260       IF str$ > word$ THEN
270         REMark found where to add the new word
280         PRINT #4,word$
290         found% = 1
300       END IF
310     END IF
320     PRINT #4,str$
330   END REPeat write_out
340   IF found% = 0 THEN PRINT #4,word$
350   CLOSE #3
360   CLOSE #4
370   REMark change filename back to original
380   DELETE ip$
390   COPY op$ TO ip$
400   DELETE op$
410 END REPeat program
```

LISTING 3 : addwordstolist_bas

The above approach works, but is slow and clumsy, although it can (slowly) handle very large word lists subject to enough space being available on the media to hold both the original and temporary new file.

An easier way, if the list is not too long to fit into a string array, is to load the file into a string array and use a method known as a “binary chop” to locate where the new word should be added, or indeed if the word already exists in the array. This involves starting to look halfway through the list and see which half the word is likely to belong in. Having worked that out, we then split that half into a further pair of halves and repeat the process until we find the required point.

```
100 REMark using binary search to add data to a pre-sorted
array
110 REMark array is called array$()
120 max%    = 500 : REMark maximum number of entries allowed
130 widest% = 20  : REMark longest word 10 characters long
140 DIM array$(max%-1,widest%)
150 :
160 number% = 0    : REMark how many entries currently in
the list
170 CLS : CLS #0
180 :
190 INPUT #0,'Load which file > ';ip$
200 IF ip$ <> '' THEN
210   OPEN_IN #3,ip$
220   REPeat loop
230     IF EOF(#3) THEN EXIT loop
240     INPUT #3,array$(number%)
250     number% = number% + 1
260     IF number% >= max% THEN EXIT loop
270   END REPeat loop
280   CLOSE #3
290 END IF
300 PRINT number%;' entries in list so far.'
310 :
320 REMark enter new words to add to list (unless already
in list)
330 added% = 0 : REMark running track of number of words
added so far
```

```
340 REPeat program
350    IF number% >= max% THEN PRINT'Array full.' : EXIT
program : REMark no room for more
360   INPUT #0,'Word to add > ';word$
370   IF word$ = '' THEN EXIT program
380   Add_Entry word$
390 END REPeat program
400 :
410 REMark save the updated list (use same name if a list
was loaded)
420 PRINT \ 'Number of added entries : ';added%
430 IF added% > 0 THEN
440   op$ = ip$
450   IF op$ = '' THEN INPUT #0,'Save as > ';op$
460   IF op$ <> '' THEN
470     PRINT #0,'Saving ';op$;' ...'
480     OPEN_NEW #3,op$
490     PRINT #3,array$(0 TO number%-1)
500     CLOSE #3
510   END IF
520 END IF
530 :
540 PRINT #0,'Program finished.'
550 STOP
560 :
570 DEFine PROCedure Add_Entry (new_word$)
580   LOCal lo%,mid%,hi%,loop,a
590   REMark if list empty, just insert at start
600   IF number% = 0 THEN
610     array$(0) = new_word$ : number% = 1
620       PRINT '"';new_word$;'" added. Total entries =
';number%
630     added% = added% + 1 : RETurn
640   END IF
650   :
660   REMark binary search for insertion point
670   lo% = 0         : REMark lowest subscript
680   hi% = number%-1 : REMark highest subscript
690   REPeat loop
700     mid% = (lo%+hi%) DIV 2
710                     IF    Lower_Case$(new_word$)    <
Lower_Case$(array$(mid%)) THEN
720       hi% = mid% - 1 : IF lo% > hi% THEN EXIT loop
```

```
730     ELSE
740       lo% = mid% + 1 : IF lo% > hi% THEN mid% = lo% :
EXIT loop
750     END IF
760   END REPeat loop
770   :
780   IF mid% > 0 THEN
790     REMark does the new word already exist in the list?
800     IF array$(mid%-1) == new_word$ THEN
810       PRINT '"';new_word$;'" is already in the list.'
820       RETurn
830     END IF
840   END IF
850   :
860   REMark shuffle up to make room for new word in correct
place
870    FOR a = number% TO mid%+1 STEP -1 : array$(a) =
array$(a-1)
880   array$(mid%) = new_word$
890   number% = number% + 1 : added% = added% + 1
900  PRINT '"';new_word$;'" added. Total entries = ';number%
910 END DEFine Add_Entry
920 :
930 DEFine FuNction Lower_Case$ (str$)
940   LOCal a,cde,t$
950   t$ = str$
960   FOR a = 1 TO LEN(str$)
970     cde = CODE(t$(a))
980      IF cde >= 65 AND cde <= 90 THEN cde = cde + 32 :
t$(a) = CHR$(cde)
990   END FOR a
1000   RETurn t$
1010 END DEFine Lower_Case$
```

Listing 3 : binarysearch_bas

This listing is a bit longer than the others, because it's a complete program to generate a word list, although limited in the number of words it can handle. I've set the limit as 500 words in line 120, each of no more than 20 characters long, set in line 130. Alter these if you wish to adapt it for larger word lists.

What it does is to ask you if you wish to enter a 'base' file. If not and you wish to start a new word list, just press ENTER to make a blank filename in line 190.

Now keep entering words until you wish to finish – enter a blank word to finish. The program keeps a running count of the total number of words in the list using the variable 'number%'. It also keep a running total of the number of new words added in this session – the variable 'added%'.

Once you have entered a word in line 360, it then calls the procedure Add_Entry to see if the word should be added to the list or not. This procedure starts at line 570. It performs the following actions:

1. If the list is empty, it simply adds the word as the first entry and returns (lines 600 to 640).
2. If not empty, it defines a set of pointers, marking the lower bound of the section (lo%), upper bound of the section (hi%) and a median pointer (mid%) which it tries to set at about halfway between the two bounds. When comparing strings, it uses the Lower_Case$ function defined in lines 930 to 1010 to ensure that all comparisons are done in the same case – if one of your toolkits has an extension called LOWER$ or equivalent to do this, use that as it will be faster than a simple BASIC function like this. Depending on the result of the comparison made in line 710, the pointers to the bounds are adjusted accordingly until lo% becomes greater than hi%. When this happens, it knows it has found the entry just above where your new word would go in the file.
3. Now that we have found where the word would go, we check the entry just below this (if there is one – line 780). If this is the same as our new word (line 800) we tell the user that the word already exists in the list and don't add the new word. Note the use of '==' to ensure case independent comparison.
4. If the word is not already in the file, we shuffle the part of the array above where the new word would go up by one position in the array (line 870) - note how we do this backward from the top of the array using the "STEP -1" to avoid accidentally overwriting everything! Finally, line 880 places the new word into the list and we increment the total number of words and the number of new words added (line 890) before returning to ask for the next word to be entered.

Whilst the listing is quite long, do bear in mind that it is a complete working program and the search routine we are interested in is mainly just the code in lines 670 to 760.

If the limit imposed by how large you can dimension QL string arrays is restrictive, what you would then have to do is to consider storing the list as fixed length entries in an allocated block of memory, change the pointers to be floating point values rather than integers and try to manipulate the strings in memory as though they were part of an array by using memory string peeks and pokes and using move memory commands to do the shuffling of entries. SBASIC has PEEK$ and POKE$ functions to help you do this. Sadly, it's beyond the scope of this article and not a programming job for the faint-hearted!

Conclusion

I hope that this article has been useful to some readers – we have covered a lot of programming ground and it's probably a bit much to take on in just in one go. The programming techniques should prove useful to those wishing to handle textual data in large files like this.

If anyone has ideas on how to improve these routines, or to take them a stage further, I'd be pleased to hear from you and publish your ideas in a future issue.

In the meantime, I'll try to make sure that the listings are placed on the website and library disk ML01 (magazine listings) for those who'd rather save their typing fingers.

ZIP AND UNZIP — Dilwyn Jones

[As a result of asking a QLer to Zip some files before emailing them to me, he admitted that (like me) ZIPPING is not one of his stronger skills. An appeal to Dilwyn brought the response "Oh, I wrote an article on ZIPPING for QLToday some years ago. You could reproduce that article if Jochen has no objections."

An email to/from Jochen brought the necessary permission to do that, so, with our grateful thanks to both Jochen and Dilwyn (who has kindly worked on the article to bring it up to date), here is Part 1 of a series of articles on the subject (broken down so that it doesn't become a ZIP Magazine). Further Parts will follow, Issue by Issue until Dilwyn thinks that we should all be experts on the subject - Ed]

Sinclair QL Re-Releases

RWAP Services

We have been working hard to safeguard the future of the Sinclair QL through beginning to compile a repository of QL titles.

The repository enables people to see what software was produced for the Sinclair QL and also to be able to purchase working copies when their microdrive cartridges fail. Where we can, we obtain permission from the copyright holder to re-release items on the market.

This has enabled us to bring some of the titles back to the market as well as re-kindle interest in the Sinclair QL and its emulators.

Old favourites brought back to life include:

Jungle Eddi
The Lost Pharaoh
Pengi
Microdeal's Flight Simulator
Microdeal's QL Hopper
Microdeal's The King
Cuthbert in Space

We still retain our existing catalogue , including:

Open Golf
Stone Raider II
Hoverzone
Deathstrike
Flightdeck

All games are available on disk or for use with Q-emuLator on the PC for **ONLY £5 each.**

Microdrive versions also available - £10 each

Visit the QL Wiki for more details on software, books and hardware for the Sinclair QL: www.rwapadventure.com/ql_wiki

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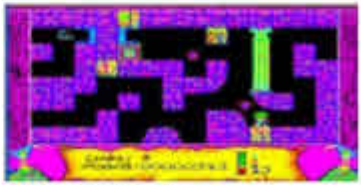
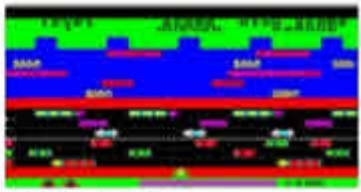
QL Pengi by Jochen Merz



The Lost Pharaoh by Talent



QL Hopper by Microdeal

The King by Microdeal

Cuthbert in Space by Microdeal

Working to safeguard the QL for the future www.rwapsoftware.co.uk

Zip is a utility program for packing a set of files into a single file, known as an "archive", with the capability of compressing files. The term "compressing" means reducing the space taken by those files, although zip can store files uncompressed in an archive if it thinks that attempting to compress those files may result in a file which is actually larger than the original.

In simple terms, what Zip does is to try to reduce the storage space needed for a set of files and to combine them into a single large file. This is useful for distributing programs via web sites and bulletin boards, for example, because downloading a single file is more convenient than downloading several individual files, and if the archive is smaller than the sum of the individual file sizes, then of course you are online for shorter periods and so your telephone bill benefits too.

Zip is the program which does the packing and compressing.

Unzip is the program which decompresses and unpacks the files back into their original form.

INFO-ZIP

This is the name of the organisation which co-ordinates the Zip and Unzip programs for various computing platforms such as Linux, Windows, RISC OS, Amiga, Atari and of course QDOS. Info-Zip is a diverse, Internet based workgroup of about 20 primary authors and over 100 beta-testers, originally formed in 1990 in the USA. The Info-Zip programs are basically free to use and copy, subject to the terms of the licence (basically inclusion of Info-Zip copyright notices within redistributions), and you can get hold of the Zip/Unzip source code files if you wish to see how the software works.

INFO-ZIP FOR QDOS

One of the "team of twenty" is our own Jonathan Hudson, who ported the version for QDOS and SMSQ/E systems. At the time of writing, the version numbers for the official QDOS versions were Unzip version 5.41 and Zip version 2.3. You may also come across version 5.32 of Unzip which is a perfectly usable version in my experience.

It is important that you use the Info-Zip versions of Zip and Unzip. Older versions by various authors exist, but these have limitations such as inability to handle level 2 directories, being slower than the current version and the possibility of creating zipped files which work only on the system on which that file was created. Info-Zip is a cross-platform system which means that for people like Jonathan who create files on one system and move them to other systems they stand a good chance of working on that other system. So stick to the Jonathan Hudson versions of the QL Zip and Unzip programs.

OTHER ARCHIVERS

There are other archiving programs out there for various systems, including QDOS. You may come across LHA, Zoo, and RAR for example - versions of these by various authors exist for the QL. You can get most of these programs from my website at

www.dilwyn.me.uk/arch/index.html

Broadly speaking, Zip is the most common archiver for the QL these days, as you will see if you visit any website or bulletin board offering QL software for download. I suggest you start off using Zip and Unzip and explore the others later as your confidence in using such programs grows.

Such archivers are generally "portable" - files compressed on Windows, say, can generally be decompressed on a QL. The only areas where you may encounter some difficulty are with QL executable programs when they are unzipped on a non-QL system causing loss of the job headers, or with filename extension separators. The QL prefers '_' between parts of filenames, other systems generally prefer '.' - although QL Zip and Unzip cope automatically with any conversion requirements where needed.

COMMAND LINES

Zip (and Unzip) is what is generally known as a "command line" utility. In other words, you type in commands to make it do what you want. Modern programs are generally menu driven or pointer driven to make them easier to use, and Zip on the QL is no exception. You can get "front end" programs like Archivers Control Panel to make Zip and Unzip (as well as other archiving programs) easier to use and we'll look at these in a later part of this series.

OBTAINING COPIES OF ZIP AND UNZIP

Since Info-Zip is freely copyable within the terms of the licence, you can get hold of copies on disk or CD from PD libraries, or by downloading copies from websites. Usually, the package will include everything - the programs themselves, the documentation files and sometimes the source code files (usually the sources are available separately). The list of files is quite large and you may not be interested in the source code files, for example, so you will need to know which parts you need to keep.

If you are downloading copies from the web, for example, you will generally find that Zip and Unzip themselves come to you in a zipped format! This means you have to have a copy of Unzip already to decompress them, thus putting you in a bit of a sticky situation if you do not already own a copy! Fear not, Jonathan Hudson has kindly made the distribution of Unzip available in a format which will "self-extract" as long as you follow the instructions to the letter.

Here are some web page addresses from where you can get copies of Zip and Unzip. Note that Zip comes in two forms - you can get a version with file encryption facilities and a version which does not. The latter is generally smaller and is good enough for most purposes unless you specifically need encryption facilities.

Jonathan Hudson's website:

http://www.daria.co.uk

On this site, scroll way down the page until you reach the section for Zip and Unzip (see Figure 1) and click on the underlined link for the package you wish to download.

The first link is for downloading a copy of Unzip. This will download a file called UNZIP541xQ.BIN which a self-extracting version of QDOS Unzip v5.41, which is basically a zipped copy of the Unzip files, but with a small amount of extra code to help it extract the files without needing an existing copy of Unzip.

Figure 1 - Zip/Unzip on Jonathan's website

The third and fourth links are to download whichever version of the Zip package you prefer to use. With these you will get files called ZCR23xQ.ZIP (for the version with encryption) or ZIP23xQ.ZIP. Once you have a copy of Unzip, you can use it to decompress either of these packages.

If for any reason you cannot get copies from Jonathan's website, you can get copies from the official Info-zip website at

www.info-zip.org

or you can use their FTP (File Transfer Protocol) site at:

ftp://ftp.info-zip.org/pub/infozip/

If all else fails, try my website's Archivers page at:

www.dilwyn.me.uk/arch/index.html

INSTALLING ZIP AND UNZIP

Assuming you downloaded these packages on a PC, transfer the archives to a QL or to your emulator and I'll explain how to unpack them ready for use.

The first one to unpack is Unzip, for obvious reasons - you'll need it to unpack the Zip package!

As explained above, UNZIP541xQ.BIN is a Self Extracting file for the QL. Ensure no other programs are running (not even the hotkey job if you are using pointer environment - a HOT_STOP command will stop that if needed). You will need Toolkit 2 active on your system - if you are using SMSQ/E the commands needed are already built into your system, and most QL systems with disk drives these days have Toolkit 2 built in. Some interfaces such as a Gold Card may need a command such as TK2_EXT to activate the toolkit commands, if your boot program does not already do this.

Your system needs to have expanded memory too, at least 384K of RAM, but the more the merrier! It means that you cannot unpack on a demo version of QemuLator with just 128K of RAM, for example.

Ideally, your system will have a ramdisk (most systems do these days).

Version 5.41 of Unzip will state that it needs something called 'signal extensions' which is a small toolkit of job communication extensions by Richard Zidlicky. You can usually find this in PD libraries or on the web in a zip file called SigExt30_zip. If you have these extensions, fine, but Unzip will work perfectly well without them, although version 5.41 of Unzip will issue a message saying that the extensions are missing. Ignore the message.

I'll assume that the UNZIP541xQ_BIN file is on a disk in FLP1_ and that you will be decompressing it to FLP2_ and using RAM1_ for temporary files created during the unpacking process. If you only have a single disk drive, you can unzip to a ramdisk temporarily and copy the files to an empty floppy disk later.

To start with, issue an LRESPR command on the file:

```
LRESPR "FLP1_UNZIP541xQ_BIN"
```

If it has not been renamed to a QL standard filename with '_' characters in it, the filename may be FLP1_UNZIP541xQ.BIN, it does not really matter but if it ends with '.' and it is being processed on a QDOS system, you should put the filename in quotes as QDOS will not allow '.' characters in unquoted filenames.

The screen shown in figure 2 will now pop up, asking you to enter the temporary files device and the device to extract to. Enter RAM1_ for the first question and FLP2_ for the second (assuming these are the drives being used of course).

Figure 2 - The 'SFX' screen

The program will now create the temporary files on RAM1_ and issue the following message:

[To extract the files run the command LRUN RAM1_SFX_bas]
[Press any key to exit.]

Press a key for this part of the program to finish, then as prompted type this command into BASIC:

LRUN RAM1_SFX_bas

In most cases, this will automatically complete the unzipping process by itself. On some systems (and my QPC2 v3.32 system seems to be one of these) it fails to run properly and gives an error message, in which case you'll have to intervene manually and type in these commands (which is essentially what the SFX_bas program contained) yourself:

EW RAM1_SFX_EXE;'-d FLP2_'
delete ram1_SFX_exe

delete ram1_SFX_dat
delete ram1_SFX_bas

Hopefully you will now have the required files on FLP2_ and the temporary files will have been cleared out of the ramdisk by the delete commands.

If you cannot get the "self-extract" procedure to work at all even with the above help, you will need to obtain a copy of unzip on disk from somewhere, or unzip the files in Windows or Linux and copy them to a QL disk. This is not recommended as the executable file header will be lost (Unzip will give the error Bad Parameter when you try to execute it) and some heavy duty programming needed to restore them, like this.

```
100 fl = FLEN(flp2_unzip")
110 base = ALCHP(fl)
120 LBYTES FLP2_Unzip,base
130 DELETE flp2_unzip
140 SEXEC Flp2_Unzip,base,fl,51810
```

What this little program does is to load what is left of the program and uses the SEXEC command to save the executable, adding a dataspace value of 51810 to 'repair' the program.

FILES NEEDED

Basically, you need all the programs and documentation files. The main programs are the files called Zip and Unzip. There are various other utilities and all sorts of documentation files - read these when you get a chance although some may appear a bit too technical at this stage for less experienced users.

On my system, I've thrown all the unzip package files into a directory called win1_unzip_, all of the Zip package files into win1_zip_ and put copies of Zip and Unzip into the directory where I keep copies of all my QL programs, win1_exec_

GETTING STARTED

Before we make any real use of either program, I need to point out that the programs have a somewhat limited screen of help information built in - to see this, just execute the program with no parameters:

EXEC FLP1_UNZIP

This will display the help screen shown in figure 3.

Figure 3 - Unzip's built in help screen

It is also important to know that Unzip has a configuration block built in, which lets you configure some aspects of how the program behaves. 3 options can be set for Unzip:

1. Timeout for the 'press any key' display before Unzip finishes. This is expressed as 65535 (which means wait forever for a keypress), 0 (which means don't wait at all) or a value from 1 to 32,767 in units of 1/50th of a second to wait for a keypress before giving up and finishing anyway. A value of 50 means 1 second, while the highest value of 32,767 allows for a delay of about 660 seconds.

2. Unpack mode: this can be SMS/QDOS (filenames use '_' characters) or default value (probably non-QDOS - "." character in filenames)
3. Listing mode - can be default (non-QDOS) or specifically SMS/QDOS.

Figure 4 shows the configuration process. You can use either the Config or MenuConfig programs to alter these settings for Unzip. You will be able to set Zip as well once we have unpacked that program.

Figure 4 - the configuration process

Hopefully, we now have a working copy of Unzip, so we can go about unpacking a working version of Zip.

You should have downloaded a file called either ZIP23xQ.ZIP or ZCR23xQ.ZIP, it doesn't really matter which you got, since the only difference is that the second is a version with file encryption or 'cloaking' facilities and is slightly larger.

To decompress the package you need to use the EW command to pass a small list of parameters to Unzip to tell it exactly what to do:

EW FLP1_UNZIP;'-d FLP2_ FLP1_ZIP23xQ.ZIP'

The -d FLP2_ part tells it to unzip the file called FLP1_ZIP23xQ.BIN to disk drive FLP2_. If, like me, you only have a single disk drive on your computer, you can use -d RAM1_ instead and have it unpacked to ramdisk RAM1_, then later copy all of the files to a floppy disk. If you have a hard disk system, you can extract the files direct to a directory on that:

MAKE_DIR WIN1_ZIP_
EW FLP1_UNZIP;'-d WIN1_ZIP_ FLP1_ZIP23xQ.ZIP'

You will have noticed how unwieldy these unzip commands can be - this is what I meant by describing the programs as "command line" utilities. You have to use not very memorable commands to achieve anything, which is why programs like Archivers Control Panel will come in useful later, although if you can't remember the commands, it's possible to write small BASIC programs to help you use Unzip and Zip.

Once Zip has been unpacked, you can use Config or MenuConfig programs to configure the defaults for Zip. There are only 2 options with Zip, one sets the timeout value as for Unzip, while the other tells Zip which is the file type number representing a directory. On most modern QL systems (99% of systems!) it will be 255 for level 2 devices, although older systems such as Thors may use type 3 or 4.

In the next part of this article, we'll take a look at using Unzip and Zip as well as how to create Self-Extracting Files.

Library Corner — Dilwyn Jones

Library disk UG 29

UG29 has been updated with several new programs and several sample QL font files. In addition to the font viewer program already on this disk, the following have been added to this disk during July:

Character Pick - displays the whole QL font and lets you left click ("Hit") on a character to display its CODE, or right click ("Do") on a character to send it to the Stuffer Buffer, from where it can be sent to another program with the keypress ALT-SPACE. A little time saving utility which means you don't have to look up the keypress combinations needed for accented characters and symbols not marked on the keyboard. Needs pointer environment.

Font Editor - a pointer driven font editor for QL fonts. Works on Window Manager 2 systems (which means SMSQ/E version 3.00 or later, or QDOS pointer environment version 2.00 or later). Includes commands to italicise or bolden characters, copy characters, save and load fonts, merge fonts (to change character ranges). Can handle standard QL 5 or 6 pixel wide fonts for all character sizes, and 8 pixel wide fonts for use in CSIZE width 1 only.

Euro Font For QDOS - for some time now SMSQ/E has included a Euro currency symbol at character code 181 (CTRL SHIFT U). This font file is for use on QDOS systems, to provide a Euro symbol at the same position in the character set.

Proportional Spacing - Two BASIC programs, an article and two pairs of fonts showing how to implement a rudimentary proportional printing

system for the screen, using standard QL fonts. This allows characters to have different widths - for example the letters W, M and O can be larger than other letters, rather than the simple monospaced QL font system.

Sample Fonts - a collection of several QL screen fonts, including some 8 pixel wide fonts designed for use in CSIZE 1,0 or CSIZE 1,1.

Library disk UG30

UG30 is a new 2 disk set comprising the Quanta QMAC assembler. Following on from the news in the last issue that GST have kindly allowed their QL software to be made available as freeware (they retain copyright, but allow the software to be supplied free of charge or on a non-profit basis), Quanta have also allowed the Quanta version of the QL Macro Assembler (enhanced by Phil Borman) to become available free of charge in line with GST's decision. This includes QMAC version 1.06 and linker version 1.03. Disk 2 contains the QMAC, Linker and Screen Editor manuals as .PDF files.

Library Disks SP56 and SP57

Don't forget that Tony Hill's searchable PDF version of the QL manual has recently become available from the library. Disk SP56 contains the trial version, a cut down version needing a password of "join-quanta" to use, but which can be circulated to non-members, while SP57 contains the full version needing no password, but which is available to Quanta members only.

Magazine Listings ML01

This disk continues to be updated with listings from the Quanta magazine, covering the period from October 2005 to the present day. Some listings are available on the Quanta website, but disk ML01 will continue to be available for those unable to download the QL program listings from the website.

HANOI Program, disk GG01

A minor change has been made to this program, to allow it to run on SMSQ/E systems. If you already have a copy, please add

the following line to the program, to add and End Define statement to the Get_Move procedure without a termination:

1175 END DEFine

Library On Website

Work continues on making the Quanta Library available to members via the Quanta website. This has taken much longer than anticipated due mainly to the need to fully and properly implement the Content Management System (CMS) for the website, and to set up and test a password protected database system for selecting and downloading the library disk required using the CMS-based website. I very much hope that this will not take too much longer before becoming available.

Ordering Programs From The Library

For a full guide to ordering programs from the Quanta Library, please refer to Section C of your Quanta Member's Guide.

A list of the programs in the library is contained in the Library Guide, (Disk LG01) which is already available to download from the Quanta website at the URL

http://www.quanta.org.uk/index.php?id=44

ARCHIVE AND LABELS George Gwilt

I regularly use an ARCHIVE program I wrote at least twenty years ago to produce labels. One of the more useful aspects of the QL and its various developments up to QPC2 is that old programs still work without alteration. True, changes have been made in my program but these have been almost entirely to accommodate different printers.

The one exception to that was when I switched from the set of four Psion programs held on microdrives to Xchange which came with the Thor 21. The problem here was that programs saved as _pro, which is the binary version, could not be read by Xchange. The solution was simple. I resaved the programs from ARCHIVE as _prg, the source version, which could be

read by Xchange. Anyway, this was not a change in the program itself, but only in its storage.

I first printed labels on an LX-80 Epson dot matrix printer bought from BOOTS on 25th October 1985. The labels came out on continuous stationery which had one label per page. I now use A4 pages which have 14 labels on them, two across and seven down. By using QPCPrint I don't have to worry about the actual printer, which seems almost miraculous.

The Program

There is, on the whole, nothing odd about the ARCHIVE program. Since I wrote it for myself and not for general use, it does not have all the bells and whistles considered necessary for public programs. There are no written instructions. Since I only use the program once or twice a year I am never quite sure how to operate it! However, after twenty years or so I am slowly getting used to it. I load the program into ARCHIVE and issue the command "start". Some questions appear on the screen asking what group of labels I want to use. This is because, when I first wrote the program I thought it might be useful to allow different sets of labels to exist in the one database. This did become useful a year or so ago, so this, at least was a good move.

Then I am asked whether the output should go direct to the printer or to a file. Output to a file is possible by using the SPOOLON command. In fact I always use this option nowadays. One reason is that I am never quite sure whether the database has been correctly updated. Rather than print a set of labels which contain mistakes, so that it requires reprinting, I prefer to look at the output in an editor, such as Perfection. If I ask for the output to go to ram1_lab, ARCHIVE prints it to ram1_lab_lis. This file contains, of course, not only the labels themselves but also the codes to be sent to the printer. This can be useful in tracking errors. The second reason for using SPOOLON is that I can store the output as a permanent record of the labels.

There is one other addition I made to the program to make life easier for myself. This concerns the printer driver. Xchange requires a file called "xchange_dat" to be present as the printer driver. Since I commonly have at least two such drivers, I needed to set the correct one to the file "xchange_dat" each time I used the label program. Eventually I decided that I would get the program to do this itself. The correct driver is set to

"xchange_dat" at the start of the program and then the original "xchange_dat" is restored at the end of the program.

ARCHIVE's usr() function

The manipulation of printer drivers was carried out using a new function made available in Xchange. This is the function usr() which allows the use of assembler code in ARCHIVE. The format of the code must be:

```
        DC.B        'pmc0'
        DC.W        bot-top        length of following code

top                                start of code

        . . . .

Bot     end                        end of code
```

To use this in ARCHIVE you first load the assembled file by:

```
        Load        usr(<filename>)
```

You can now use the code by, for example:

```
        LET num=usr(<number>,<string>)
```

The parameter <number> is set in D0 and A0 is set to point to <string>, which has ARCHIVE's format which is byte length followed by the bytes of the string.

The function usr() returns the value in D0 as set by the assembler code when it returns finally by RTS.

Printer Driver

Xchange has what has always seemed to me to be a bizarre way of dealing with printer drivers. The drivers themselves are held in a file called Printerset_dat. For the THOR at least, you are expected to use a program called pedit_bas to edit the drivers on Printerset_dat. You are also able to "install" a driver from the set. This procedure involves extracting the driver from the set and placing it in a file with a name you can choose. Thus the

name might be "xchange_dat_LX80". To use this driver for an ARCHIVE program for example you would have to copy the file to "xchange_dat".

I have never found it easy to produce a driver that actually does what I want it to do. The result is that my directories are littered with drivers most of which are useless. What do these drivers do - what is their content? To answer these questions I wrote a program which listed the contents of a driver. For some reason such a program was missing from the original Psion suite and also from the Xchange set of programs provided with the Thor.

I have always wanted to be able to print letters with accents such as the french acute, grave and cedilla. To produce these on the LX-80 I needed to tell the driver to set a particular country and then which of the special codes to use. For example code 123 produces a left curly bracket for the UK, an e acute for France and an o umlaut for Sweden. I added such instructions to the printer to the original driver. But when I moved to QPCPrint I was able to translate the codes directly, since all the characters I wanted to print appeared somewhere in the code table I was using. The printer driver was thus simplified to the form shown here below.

The Translates all show first the character as the one to be printed and second the character that the QL would print if the code that was sent to the printer was used (if you see what I mean). Thus to print the pound sign I have arranged that 156 be sent to the printer. That will produce the pound sign. However, on the QL that number, which is produced by pressing CONTROL/SHIFT comma, will in turn print beta on the screen.

```
Decode xdat v1.2 - Dec 06 - Filename win1_mp_xchange_dat_lxc7

DRIVER NAME       LXc7
PORT              parr
LINES/PAGE        65
CHARACTERS/LINE   80
CONTINUOUS FORMS  YES
END OF LINE CODE  CR,LF
PREAMBLE CODE     ESC,@,ESC,R,NUL
POSTAMBLE CODE
EMPHASIZE ON      ESC,E
EMPHASIZE OFF     ESC,F
UNDERLINE ON      ESC,-,1
UNDERLINE OFF     ESC,-,0
SUBSCRIPT ON      ESC,S,1
SUBSCRIPT OFF     ESC,T
SUPERSCRIPT ON    ESC,S,0
SUPERSCRIPT OFF   ESC,T
TRANSLATE1        £   : 0
TRANSLATE2        ò   : {
TRANSLATE3        ç   : }
TRANSLATE4        è   : ~
TRANSLATE5        é   : ß
TRANSLATE6        ù   : @
TRANSLATE7        à   : ç
TRANSLATE8        ö   : [
TRANSLATE9        ü   : ö
TRANSLATE10       ä   : é
```

SUBGROUP MEETINGS

THE WEST MIDLANDS QL USER GROUP

There has been a change of venue, brought about by the owners of the Queens Head pub changing it from a straight pub into an eatery. The new meeting place is called the Bull, the address is 1 Price Street, Birmingham, B4 6JU. Approx 7 minutes walk from Snow Hill main-line railway station and has ample street parking nearby. Meetings remain open to QUANTA members and non-members alike.

After your first meeting you're expected to pay £1 each time towards the organisation and monthly newsletter costs - except once a year when the group pays all those who attend a pound instead ;-)

We provide food twice a year for those who attend the AGM and the group's birthday party) and at meetings we discuss all sorts of things, QL-related and otherwise, usually from about 8:20pm onwards till 10:30 or later. The group owns QL hardware, a disk library and subscribes to relevant magazines. People can join the mailing list for £3.50 per year, even if they can't attend regularly.

Meetings : Meetings are usually on the first and third Monday of each month (but not on bank holidays unless the previous one was cancelled for that reason).

Contact : The contact number remains Mike Bedford White's, on 0121 605 4438, anytime after 11am.

Email: mikebwhite@blueyonder.co.uk

QUANTA DORSET SUBGROUP - Dorset

Meetings are held, on the second Sunday of each month between 2.00 pm and 5.00 pm.

For location please contact:- John Penn-Simkins or John Mason.

John Penn-Simkins 01202 422491 or John Mason 01425 275894

LONDON QL AND QUANTA GROUP

Meetings are held in the School Room, which is the basement of the Borough Welsh Congregational Chapel, 90, Southwark Bridge Road, London SE1. This is almost opposite the junction with Marshalsea Road, at the other end of which, 5 minutes walk away, is the Borough Underground Station. Free parking is easily available in Southwark Bridge Road for road users, Cyclists are welcome.

Members currently each pay a subscription of £40 per year towards the cost of the hire of the hall and a small additional charge is made for tea/coffee - biscuits are then provided free.

Please bring your QL equipment if possible, all types welcome, e.g., PC portable running emulators. The Group has some systems stored at the venue for its use. In addition, there are lots of donated second user equipment, books, magazines, etc, available for purchase.

Time: 2.00 pm. to 5.00 pm., on the second Sunday of the month.

No meetings are held in either December - winter break, or August summer break. Giving 10 meetings a year.

Malcolm Cadman: Tel: 020 8691 5780

email: QL@mcad.demon.co.uk

NEMQLUG - THE NORTH EAST MANCHESTER QL USER GROUP

Meetings are held at 181, Urmston Lane, Stretford, Manchester. M32 9EH (Near Junction 7 of M60 Motorway - Was Junction 7 M63 Motorway). Our informal meetings start at 7 p.m. and finish at 11 pm. All welcome.

Meets on the last Thursday of each month (except December).

John/Sarah Gilpin 0161-865 2872 (thegilpins@btopenworld.com)

SCOTTISH QL USERS GROUP

SQLUG meets at George Gwilt's home every second Sunday in the month. Please contact George Gwilt before coming to get the location.

Gdggler@gmail.com

SOLENT SUBGROUP

Meets at Botley Market Hall, all welcome. Park at the back and use side entrance.

1st Saturday of the month from 2.00 pm to 6.00 pm.

Graham Evans, Tel: 023 8040 3350.

SURREY QUANTA SUBGROUP (SQSG)

The group is currently trying other venues in the Leatherhead - Epsom area. If you plan to attend but do not get our emails, please phone or email Ken Bain for the latest location.

Meetings are 8.00 to 10.00 pm. On the last Wednesday of each month except December.

Ken Bain - 01932 - 347 432 (to midnight), kenb@bcs.org.uk

SUSSEX QL USER GROUP

Currently without a meeting place, anyone interested should contact Keith Mitchell or Roy Wood.

Roy Wood, 01273 430501 or Keith Mitchell, 01903 742263.

STOP PRESS

New QemuLator for Windows and OSX!

Version 3.0 of Q-emuLator for Windows is now available

http://www.terdina.net/ql/Enter.html

This is a paid update (except for users that registered in the last six months - they will receive a free update). The unregistered version (with limited features) can still be used for free.

New features in version 3:

- The main window can be resized to make the QL screen bigger.
- Compatibility improvements.
- Precise QL speed emulation.
- Dot matrix printer emulation.
- Mount .ZIP files as read-only disks.
- Use .QLPAK single-file QL software archives.
- Smart full screen upscaling.
- Access microdrive images and floppy disk images.
- QL Sampled Sound System.
- Improved display emulation when running on Windows 7 (and full screen mode fixed).

Q-emuLator 1.0 for Mac OS X is also available at:

http://www.terdina.net/ql/EnterOSX.html.

The author Daniele Terdina says: "It only works after getting a registration code, but I can send temporary registration codes to people interested in trying it (email me and please include your full name)."

And just to note the new look QemuLator website too!

QUANTA

Independent QL Users Group

World-wide Membership is by subscription only,
Offering the following benefits:
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Further details from the Membership Secretary

John Gilpin, 181, Urmston Lane,
Stretford, Manchester, M32 9EH (UK).
Tel. +44 (0) 161 865 2872
Email: membership@quanta.org.uk

Visit the QUANTA Web Site

Next QUANTA Sponsored Event

Annual General Meeting 2011 and Workshop

Date: Saturday/Sunday 16th/17th April 2011
Workshop from 12.00 Noon (Doors open 10 am for setting up) to 5.00 pm Saturday
And 9.00 am to 1.30 pm Sunday
Annual General Meeting 2.00 pm Prompt Sunday.

Venue: 3rd Davyhulme Scout Headquarters “The Endeavour”, Conway Road, off Lostock Road, Davyhulme, Manchester. M41 0TF. Near M60 J9.

Full details from Chairman@quanta.org.uk